

## **OPERATING INSTRUCTIONS**

**MA<sup>TM</sup> 635**

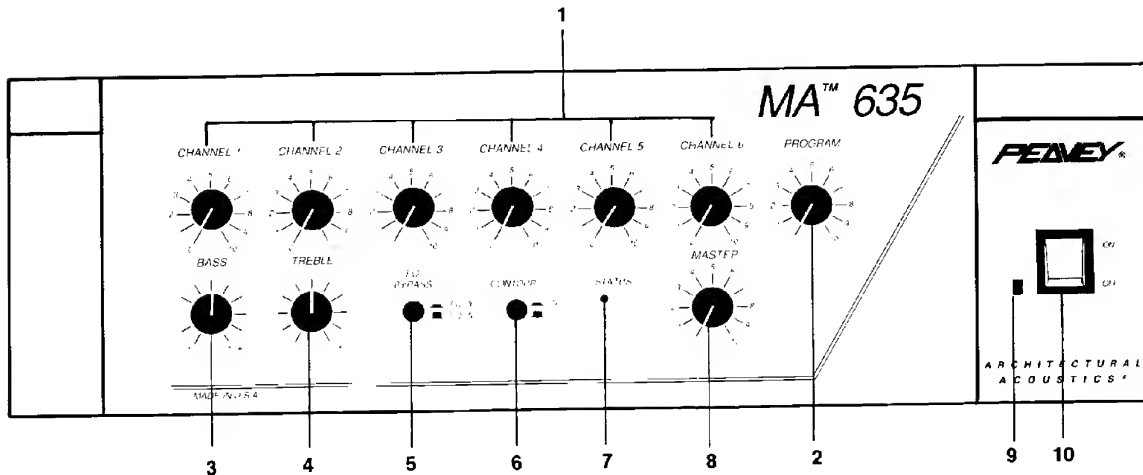
**MIXER AMPLIFIER**



**PEAVEY<sup>®</sup>**

ARCHITECTURAL  
ACOUSTICS<sup>®</sup>

## INTRODUCTION AND GENERAL DESCRIPTION OF THE PEAVEY ARCHITECTURAL ACOUSTICS MA™ 635



### FEATURES:

- 7 channel mixer/power amplifier system
- 20 - 20 kHz frequency response
- Bridging input/output
- Dedicated program Input
- Contour switch (special equalization)
- Bass and treble controls
- Preamp output/power amp input patch capability
- Short circuit and thermal protection
- SPS™ compression circuitry (internally defeatable)
- External volume control
- Built-in low cut filter (switchable from rear panel)
- Plug in module capability
- Output impedance variations: 4 ohm, 8 ohm, 16 ohm, 25V, and 70V
- Rack-mountable or stand alone package
- 600 balanced output

### General Description

The Architectural Acoustics MA™ 635 is a high quality mixer amplifier with seven separate input channels. Each channel provides a level control and the master output section features bass and treble EQ controls (defeatable), and special equalization contour.

The MA 635 provides unmatched application flexibility with an array of optional plug-in modules, allowing each system to be tailor-made for specialized installations. Input modules may be loaded in as required for varying sound reinforcement applications, number of input channels, special functions, etc.

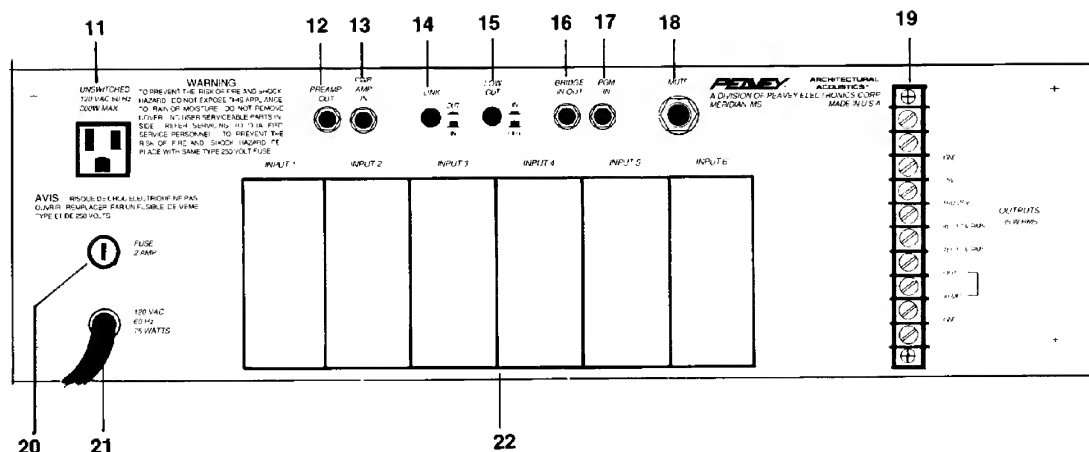
The program input includes its own level control and is totally separate from the other six channels. External signals may be patched in at this point as a system auxiliary input or the seventh input channel. Signals appearing at this input are routed directly to the master summing amplifier stage and are mixed with signals from the other six channels. Systems requiring a single input may use the program input and the purchase of an input module is not necessary. The program level control regulates the level of this input and the signal is routed through the system bass and treble controls.

The power section delivers 35 watts and includes built-in SPS™ compression which allows the MA 635 to produce full power capability without audible power amp clipping. A broad

load impedance range is provided and twenty-five and seventy volt line outputs are standard equipment. The MA 635 is packaged as a stand-alone unit but will also rack-mount into a standard 19" rack. A smoke-tinted security cover is offered as an optional feature to guard against accidental or malicious alteration of system calibration.

1. **Channel Level Control**  
Controls the signal level at the channel input.
2. **Program Level Control**  
Controls the signal level at the program input.
3. **Low EQ Control (Bass)**  
Active equalization control that adjusts the low frequency response. Clockwise rotation boosts lows while counterclockwise rotation provides a cut (reduction) of the low frequencies ( $\pm 10$  dB).
4. **High EQ Control (Treble)**  
Active equalization control that adjusts the high frequency response. Clockwise rotation boosts highs while counterclockwise rotation provides a cut (reduction) of the high frequencies ( $\pm 10$  dB).
5. **EQ Bypass**  
The "in" position of this switch bypasses bass and treble equalization. The "out" position allows operation of the equalization.
6. **Contour Switch**  
The "in" position of this switch provides 6 dB boost at 100 Hz and 6 dB boost at 10 kHz. The "out" position removes boost from the system.
7. **Status LED**  
Indicates output level from the master mixing stage. Bi-color illumination capability indicates signal activity (green) and 2 dB below clipping (red).
8. **Master**  
Controls the overall volume level of the system.
9. **Power On LED**  
Indicates when AC power is being supplied to the unit.
10. **Power Switch**  
Depress to "on" position to turn on.

## Rear Panel



### 11. AC outlet (Unswitched)

Provides AC power for auxiliary equipment with power consumption 300 watts maximum.

### 12. Preamp Out

Provides output signal to outboard gear for signal processing. Compressors, limiters, equalizers, etc., may be patched into the loop from this point. Signal from output of signal processor should return to power amp input. The "link" switch should be in the "in" position for this operation.

### 13. Power Amp Input

Provides access directly to the power amp. When using this input the "link" switch should be in the "in" position.

### 14. Link Switch

Breaks the signal flow routing from the preamp to the power amp when the link switch is in the "in" position, allowing external signals to be patched in at this point.

### 15. Low Cut Switch

Provides a 6 dB/octave low frequency roll-off at 60 Hz. The "in" position activates the low cut. The "out" position defeats the low cut.

### 16. Bridge In/Out

Provides output signal that is independent of the Master level control, Bass and Treble controls. It also may be used as a mixing output point when the similar terminal of another amplifier is connected to this terminal. A separate tape recording output may be taken from this point without interaction of EQ and master level control.

### 17. Program In

Accepts signals from other sources such as another mixer or mixer amplifier. Signal level at this input is controlled by the Program level control and is fed to the Master output. The program in may be regarded as channel "seven" without plug-in module capability. **NOTE:** This input is muted whenever the mute line is grounded.

### 18. Mute

Plug-in modules are available with muting function. The mute line may be activated with an external switch at this point.

### 19. Outputs

A direct output, as well as several Autoformer outputs, are provided to allow the proper interface between the amplifier and the speaker system. The direct output allows direct connection to a 4 ohm speaker system. To use this output, disconnect the jumper between the OUT terminal and the XFMR terminal. Connect the speaker (or speakers) from the GND terminal to the out terminal. 8 ohm, 16 ohm, 25 volt, and 70 volt outputs are also provided. To use these outputs, the jumper between OUT and XFMR must be installed. For 8 ohm speaker systems, connect between the GND terminal and the 8 ohm output on the MA Series. For use with 16 ohm speaker systems, connect between the GND terminal and the 16 ohm terminal. 25V and 70V outputs are also provided for "constant voltage" speaker distribution systems. On the MA 635, the 25V output connection is between the GND terminal and the 16 ohm/25V terminal. The MA 635 also features a balanced, transformer isolated line level output. This output is provided for direct connection to "music on hold" systems, booster power amplifiers, etc. The balanced output is designed to deliver 1 V RMS into a 600 ohm load.

### 20. Fuse

Replace with the same size and rating.

### 21. Power Cord

Connect to 120V AC power source.

### 22. Module Input Ports

Accepts plug-in modules for all six channels. Input modules are optional and should be selected by installation requirements. **NOTE:** All modules will function in any of the six ports.

## SPECIFICATIONS MA™ 635

**Output Power:**  
35 watts

**Power BW:**  
Direct: 20 - 20K <0.5% THD  
XFMR: 35 - 20K <0.5% THD

**Frequency Response:**  
Direct: 20 - 20K  $\pm 1.0$  dB  
XFMR: 20 - 20K  $\pm 3$  dB

**THD:**  
0.02% at 1 kHz rated power

**Output Regulation:**  
Direct: <0.5 dB  
XFMR: <1.0 dB

**S/N Ratio:**  
Master Volume Min: 95 dB  
Master Volume Max: 79 dB  
Power Amp Only: 100 dB

**Tone Controls:**  
Bass:  $\pm 10$  dB @ 100 Hz  
Treble:  $\pm 10$  dB @ 10 kHz

**Contour:**  
+6 dB @ 100 Hz  
+6 dB @ 10 kHz

**Inputs:**  
Six input ports, one dedicated  
program input bridge in/out

**Input Sensitivity:**  
Ports 1-6 and PGM: 100 mV @  
10K ohms  
Bridge In/Out: 100 mV/3.3K ohms

**Preamp Out/Power Amp In:**  
1.0 V @ 600 ohms/1.0V @ 15K ohms

**Outputs:**  
Direct Out: 4 ohms  
XFMR: 8 ohms, 16 ohms, 25 volts,  
70 volts

**Controls:**  
7 input gain controls, 1 bass control,  
1 treble control, 1 contour switch,  
1 master gain control, 1 power  
switch, 1 EQ defeat switch, 1 link  
switch, 1 subsonic switch

**Indicators:**  
Power LED, bicolor (green/red)  
status LED

**Protection:**  
Internal current limiting, SPS  
(speaker protection) output relays, 1  
line fuse (external), and 2 internal  
fuses

**Connectors:**  
Preamp Out, Power Amp In,  
PGM input, bridge in/out:  
RCA phono jack  
Ports 1-6: Card edge connector  
Outputs: Screw terminals  
Mute:  $\frac{1}{4}$ " jack  
AC SJT, 3 prong

**Power Consumption:**  
AC 120 volts, 60 Hz, 75 watts

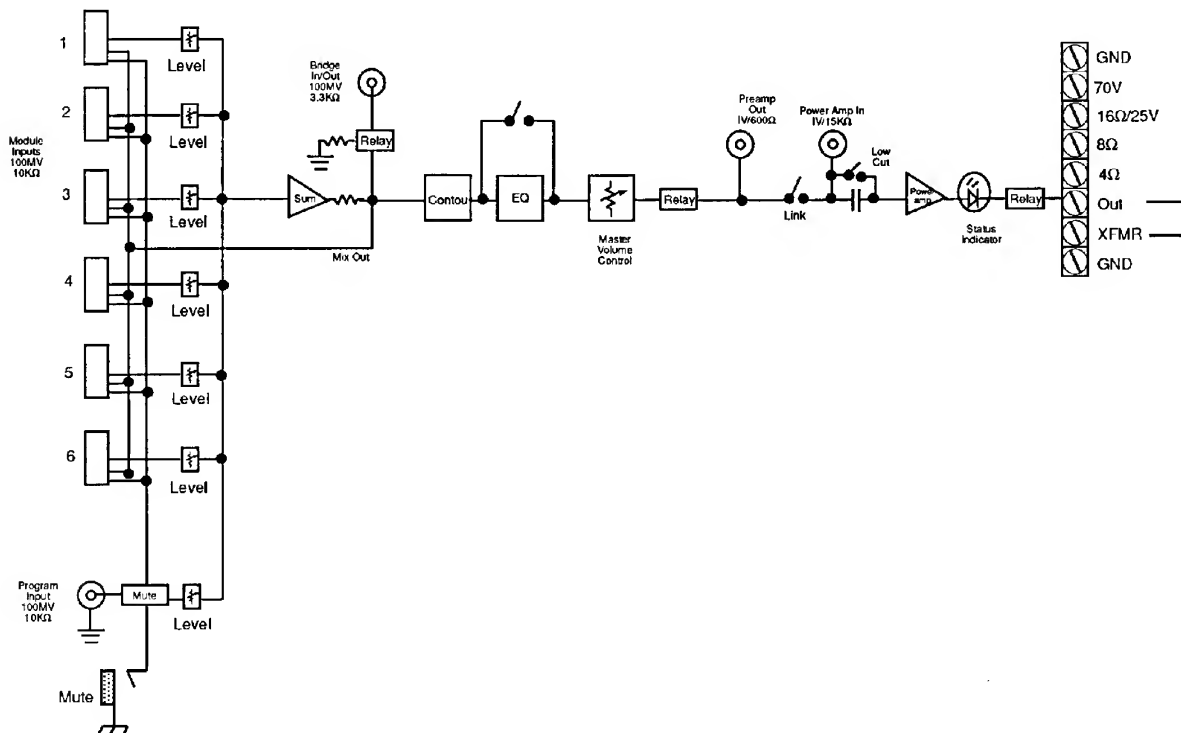
**Dimensions:**  
5.20" (H)  $\times$  17.00" (W)  $\times$  12.625" (D)

**Color:**  
Gray

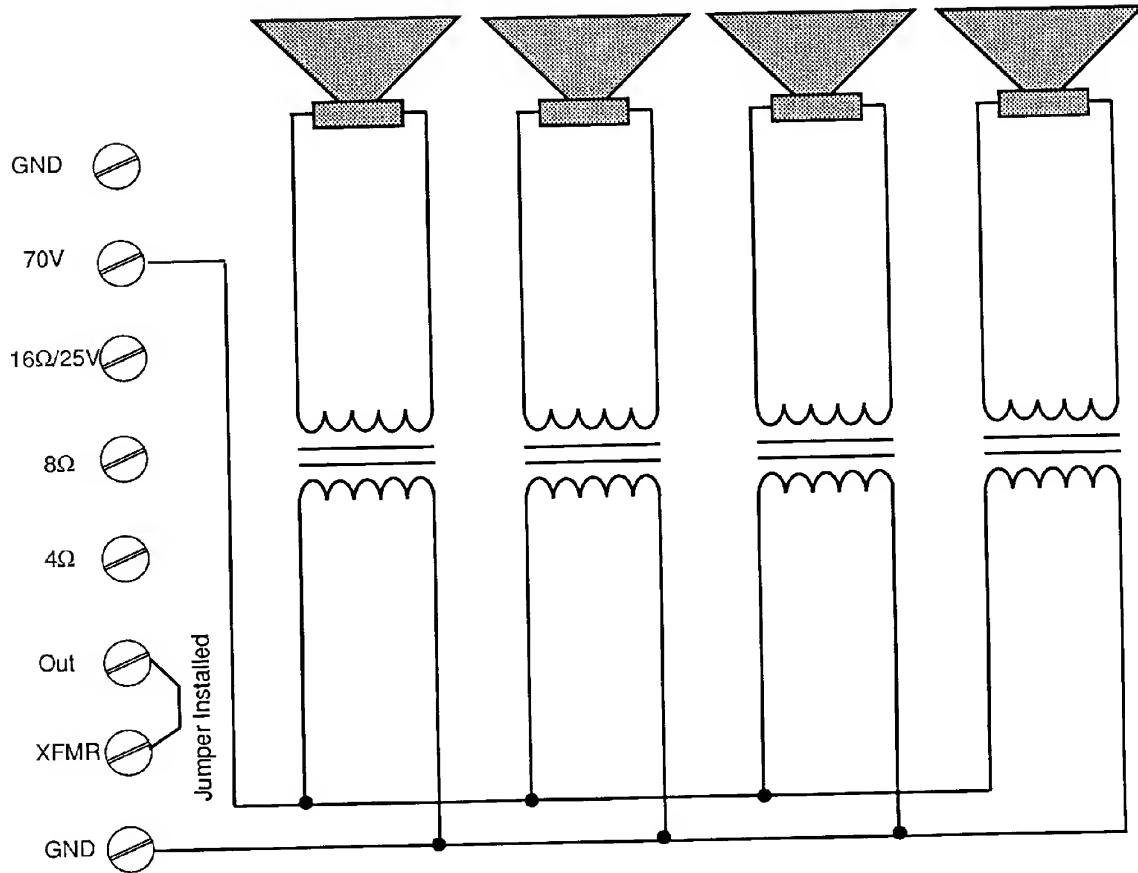
**Standard Accessories:**  
Rack-mount ears

**Other Features:**  
600 ohm output  
Output disconnected for 4 seconds  
after power on

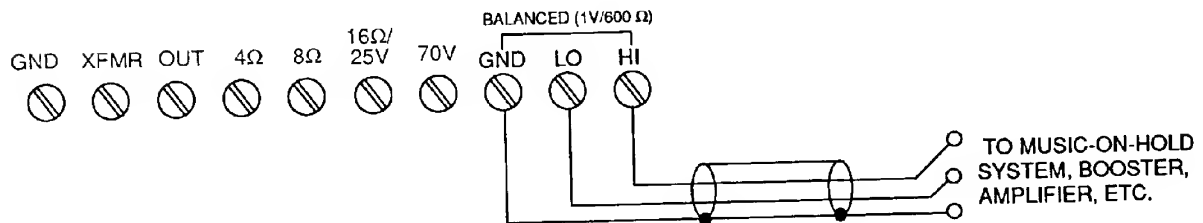
Block Diagram



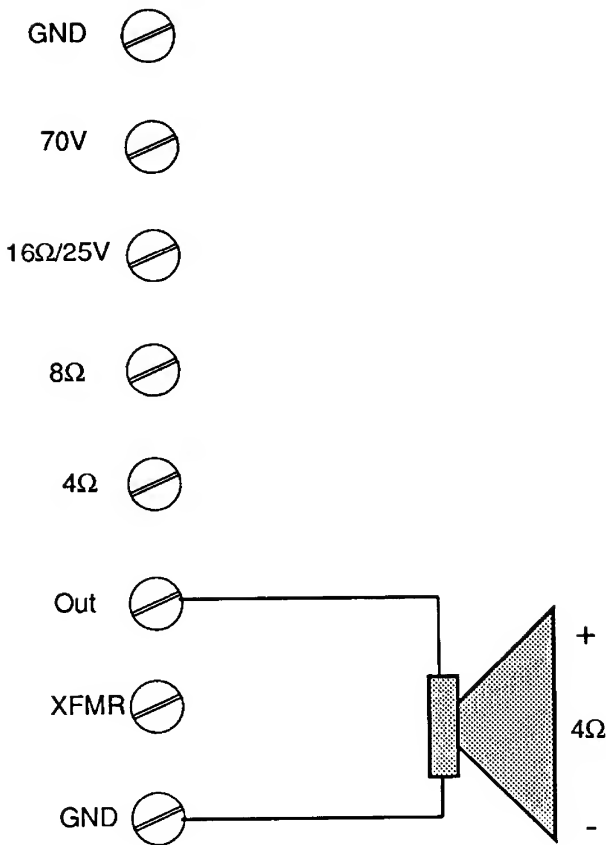
## MA 635 70V "Constant Voltage" Distribution System



## 1 V Balanced Output Connectors



MA 635 Direct output to 4Ω Speaker



## LIMITED WARRANTY

Peavey Electronics Corporation warrants to the original purchaser of this new Architectural Acoustics® product that it is free from defects in material and workmanship. If within one (1) year from date of purchase a properly installed product proves to be defective and Peavey is notified, Peavey will repair or replace it at no charge. (Note: Batteries and patch cords not covered.) "Original purchaser" means the customer for whom the product is originally installed.

Damage resulting from improper installation, interconnection of a unit or system of another manufacturer, accident or unreasonable use, neglect or any other cause not arising from defects in material and workmanship is not covered by this warranty. The warranty is valid only as to products purchased and installed in the United States.

**THIS LIMITED WARRANTY IS IN LIEU OF ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. UNDER NO CIRCUMSTANCES WILL PEAVEY BE LIABLE FOR ANY LOST PROFITS, LOST SAVINGS, INCIDENTAL DAMAGES OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT, EVEN IF PEAVEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. THIS LIMITED WARRANTY IS THE ONLY EXPRESS WARRANTY ON THIS PRODUCT, AND NO OTHER STATEMENT, REPRESENTATION, WARRANTY OR AGREEMENT BY ANY PERSON SHALL BE VALID OR BINDING UPON PEAVEY.**

Peavey's liability to the original purchaser for damages for any cause whatsoever and regardless of the form of action, is limited to the actual damages up to the greater of Five Hundred Dollars (\$500) or an amount equal to the purchase price of the product that caused the damage or that is the subject of or is directly related to the cause of action. This limitation of liability will not apply to claims for personal injury or damage to real property or tangible personal property allegedly caused by Peavey's negligence. For information on service under this warranty, call a Peavey customer service representative at (601) 483-5376.

**DANGER**

EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME. THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

DURATION PER DAY IN HOURS	SOUND LEVEL dBA, SLOW RESPONSE
8	90
6	95
4	100
3	105
2	110
1	115
1	120

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS.

IF YOU ARE EXPOSED TO NOISE IN EXCESS OF THE PERMISSIBLE LIMITS, TAKE THE FOLLOWING PRECAUTIONS TO PREVENT A PERMANENT HEARING LOSS: IF EXPOSURE IS IN EXCESS OF THE LIMITS AS SET FORTH ABOVE, TO INSURE AGAINST POTENTIALLY DANGEROUS EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTIONS WHILE THIS UNIT IS IN OPERATION.

**CAUTION**

THIS MIXING CONSOLE EFFECTS DEVICE (PEAVEY) HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE SIGNAL (VOLTAGE) FOR PLAYING MODERN MUSIC. IMPROPER USE OF THE GAIN/EQUALIZER CONTROLS AND/OR IMPROPER USE OF INTERNAL/EXTERNAL BUSES MAY CREATE CLIPPING (SQUARE WAVES) AND POSSIBLY CAUSE SUBSEQUENT DAMAGE TO THE LOUDSPEAKER SYSTEMS. EXTENDED OPERATION OF THE GAIN/EQUALIZATION CONTROLS IN THEIR MAXIMUM POSITION IS THEREFORE NOT RECOMMENDED. PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED WITH VERY LOW SETTINGS OF THE GAIN/EQUALIZATION CONTROLS IF THE INPUT SIGNAL IS VERY STRONG.

IT IS COMMON PRACTICE AMONG USERS OF SOUND REINFORCEMENT EQUIPMENT TO IDENTIFY THE INDIVIDUAL CHANNELS WITH A STRIP OF TAPE PLACED ABOVE OR BELOW THE ROW OF VOLUME FADERS. MANY TYPES OF BRANDS OF TAPE HAVE VERY STRONG ADHESIVE WHICH CAN INHIBIT THE FUNCTION OF THE FACEPLATE AND ACTUALLY REMOVE THE PAINT WHEN THE TAPE IS REMOVED. WE STRONGLY RECOMMEND THAT SCOTCH TAPE NOT BE USED ON PAINTED SURFACES NOR ANY OTHER TAPE THAT IS NOT ESPECIALLY DESIGNED FOR SUCH APPLICATIONS. MEDIUM OR LIGHT ADHESIVE MASKING OR LABEL TAPE IS RECOMMENDED IF TAPE IS USED. ANY TAPE LEFT ON PAINTED SURFACE FOR EXTENDED PERIODS WILL BE DIFFICULT TO REMOVE. NEVER USE CLEAR OR SCOTCH TAPE FOR THESE APPLICATIONS.

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be retained for future reference.
3. Obey all cautions in the operating instructions and on the back of the unit.
4. All operating instructions should be followed.
5. This product should not be used near water, i.e., a bathtub, sink, swimming pool, well, basement, etc.
6. This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a box or an enclosure that will impede the flow of cooling air.
7. This product should not be placed near a source of heat such as a stove, radiator, or another heat-producing appliance.
8. Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
9. Never break off the ground pin on the power supply cord. For more information on grounding, write for our free booklet, "Shock Hazard and Grounding."
10. Power supply cords should always be handled carefully. Never walk on, place equipment on, or power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the cord exits the unit.
11. The power supply cord should be unplugged when the unit is to be unused for long periods of time.
12. If this product is to be mounted in an equipment rack, rear support should be provided.
13. Metal parts can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag or an ammonia-based household cleaner if necessary.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation holes or any other openings.
15. This unit should be checked by a qualified service technician if:
  - A. The power supply cord or plug has been damaged.
  - B. Anything has fallen on or been spilled into the unit.
  - C. The unit does not operate correctly.
  - D. The unit has been dropped or the enclosure damaged.
16. The user should not attempt to service this equipment. All service work should be done by a qualified service technician.

**PEAVEY®**  
**ARCHITECTURAL**  
**ACOUSTICS®**

Features and specifications are subjects to change

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A DIVISION OF PEAVEY ELECTRONICS CORPORATION 711 A Street, P.O. Box 2898, Meridian, MS 39302-2898  
#80301240

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